*CLASS COPY – DO NOT WRITE ON THIS!*

CW#7: Bisecting Angles + Segments

Geometry

Study the diagrams below and write a definition of a *segment bisector* in your notebook.

*Examples of segment bisectors Non-examples of segment bisectors*

3

5

21

20

3

3

3

1.5

1.5

M

H

A

T

R

1. Copy the following figure into your notebook and use it to answer the following questions.

a) MR = 24, HR = ?

b) TR = 16, AT = ?

c) MH = 58, MR = \_\_\_\_\_\_

d) R is the midpoint of \_\_\_\_\_\_ and \_\_\_\_\_\_.

1. M is the segment bisector of PQ. PM = 7x + 8 and MQ = 5x+ 20. Draw the diagram and find the following information.

x= PM= \_\_\_ MQ = \_ PQ = \_\_\_\_\_\_

W

A

S

Q

B

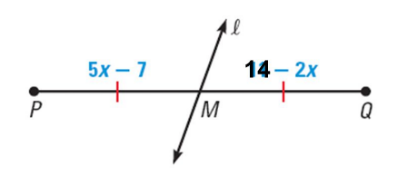
-8

0

2

4

8

1. Copy the figure into your notebook and use it to answer a – d.
2. What is the segment bisector of AB?
3. What is the coordinate of the bisector of segment QB?
4. The coordinate of the segment bisector of AR is -5. What is the coordinate of point R?
5. M is the segment bisector of PQ. Draw the diagram and label it with the following information: PM = 5x + 8 and PQ = 76. Find the value of and the length of each bisected segment.
6. DE bisects AB at C. If and . Draw the diagram and find x.
7. Copy the diagram into your notebook. Identify the segment bisector of , then find the value of x.

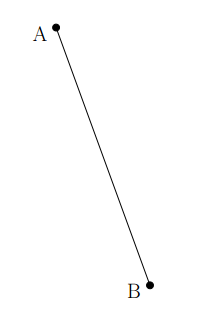
Constructing segment bisectors.

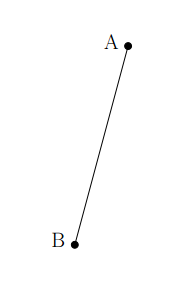
*Copy the following steps into your notebook.*

1. Place the compass at one end of line segment.
2. Adjust the compass to slightly longer than half the line segment length
3. Draw arcs above and below the line.
4. Keeping the same compass width, draw arcs from other end of line.
5. Place ruler where the arcs cross, and draw the line segment.



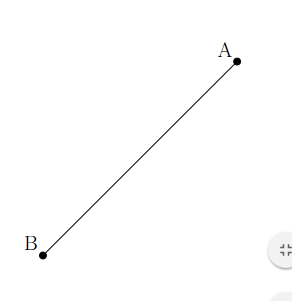
*Example. (Copy this segment into your notebook)*

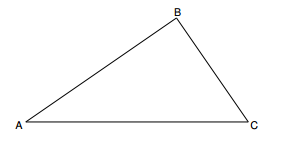


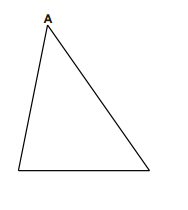


*For all of the following problems, copy the segment into your notebook using your straight edge and construct the segment bisector for each segment.*

1. 2.



3. 4. Construct the perpendicular bisector of segment BC. *(Sketch , you do not need to measure it)*

5. Construct the perpendicular bisector of each side of the triangle.

